

Amendments to the Claims

Please cancel claims 1-11. The claims should read as provided in the following listing.

1.-11. Canceled

12. (Original) A tool for measuring one or more fluid properties that comprises:

a body having an associated volume through which a fluid may pass;

a surface fixed within the volume to contact the fluid; and

an acoustic transducer affixed to the body and configured to receive acoustic signal reflections and reverberations from the surface.

13. (Original) The tool of claim 12, wherein the surface is metallic.

14. (Original) The tool of claim 12, wherein the surface is steel.

15. (Original) The tool of claim 12, wherein the surface has opposite sides configured to contact the fluid.

16. (Original) The tool of claim 15, wherein the surface is a metal disk.

17. (Original) The tool of claim 12, wherein the tool couples to a processor that identifies the acoustic signal reflections, processes the acoustic signal reflections to provide theoretical reverberations, and relates the theoretical reverberations to the received acoustic signal reverberations to determine the one or more fluid properties.

18. (Original) The tool of claim 17, wherein the one or more fluid properties includes acoustic impedance.

19. (Original) The tool of claim 12, wherein the acoustic transducer is further configured to generate acoustic signals that impinge on the surface to cause said acoustic signal reflections and reverberations.

20. (Original) The tool of claim 19, wherein the tool couples to a processor that measures a time delay between the generation of the acoustic signals and the receiving of the acoustic signals to determine an acoustic velocity.

21. (Original) The tool of claim 20, wherein the processor further identifies the acoustic signal reflections, processes the acoustic signal reflections to provide theoretical reverberations, and relates the theoretical reverberations to the received acoustic signal reverberations to determine the one or more fluid properties.

22. (Original) The tool of claim 21, wherein the one or more fluid properties includes fluid density.